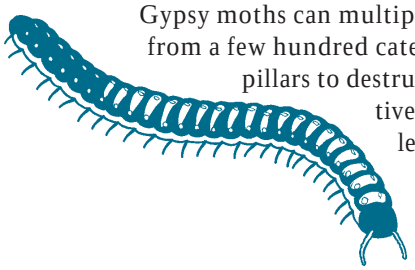
WV Wildlife Diversity NEWS

Bob Wise, *Governor* VOLUME 19, NUMBER 2 SUMMER 2002

Creepy Crawlies Are Coming!

They're everywhere, they're everywhere. Crawling up the trees, creeping through the windows, hiding in the undergrowth. Each summer, as West Virginians head for the hills or just their backyards, small creatures are also emerging that threaten the state's flora. From gypsy moths to earwigs, it's a challenge to differentiate the "good" from the "bad," especially when embracing the philosophy of biodiversity.

Perhaps the most notorious and destructive insect in the state is the gypsy moth. According to the West Virginia Department of Agriculture, more than 600,000 acres of forestland were defoliated by the gypsy moth during May and June 200l alone. This highly destructive moth larva has damaged millions of acres of hardwoods in the Eastern Panhandle and central West Virginia. While state and federal agencies have sprayed thousands of acres in an effort to minimize the moth's impact on our forests, individuals have been banding trees to try to prevent damage to their beloved oaks, the moth's tree of choice.



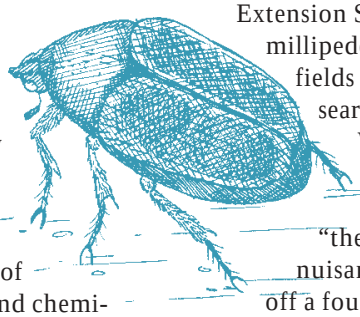
Gypsy moths can multiply from a few hundred caterpillars to destructive levels in one or two years. During the summer, gypsy moth caterpillars feed before entering the pupae stage. The caterpillars are black with five double rows of blue spots and six double rows of red spots with tufts of long hairs. The pupae is reddish brown and about ½ to 1 inch in length. The moth or adult stage lives only about one week. The male moth is charcoal gray with brown wavy markings and the female is larger, cream colored with black wavy markings.

The WVU Extension Service recommends an integrated pest management system or IPM plan in dealing with gypsy moths. They suggest placing burlap and sticky bands on susceptible trees for early detection of all life stages and using a combination of mechanical and chemical strategies once the moth is established. Their web site, www.wvu.edu/~agexten/ has dozens of information sheets and IPM plans for different pest species.

New research has shown that earwigs are not as destructive as once thought and are even considered beneficial.

Another caterpillar becoming more of a blip on the defoliation radar screen is the Eastern tent caterpillar. According to John Baniecki, an entomologist with the Extension Service, this black caterpillar with a white stripe down the back, becomes so abundant it defoliates orchards and many species of shade trees. They are easily observed in their large white "tents" where they congregate at night and during rain. To feed, they move out of their web and eat the newly opened leaves, nearly stripping all those nearby.

Back down to earth, the millipede has been the subject of great tales of huge numbers marching across lawn in search of moist areas. This many legged creature is actually not an insect, but rather a member of the class Diplopoda which consists of long, wormlike arthropods. And, it usually has only 60 legs, not a thousand as its name suggests. "Mass millipede migrations normally take place during dry spells, often in the fall of the year," says Peggy Powell also of the Extension Service. "At such times, millipedes move across lawns or fields and into houses *en masse*, searching for moisture." While they do no real damage to homes, Powell points out "their mere presence is a nuisance, and often they give off a foul odor." The best way to keep them out is to keep a lawn inhospitable to the millipede: remove excess thatch from the lawn; mow the lawn closely; remove plant debris; and water the lawn in the morning rather than in the evening, so that it doesn't remain wet at night.



The Japanese Beetle has been a

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Inside this issue...

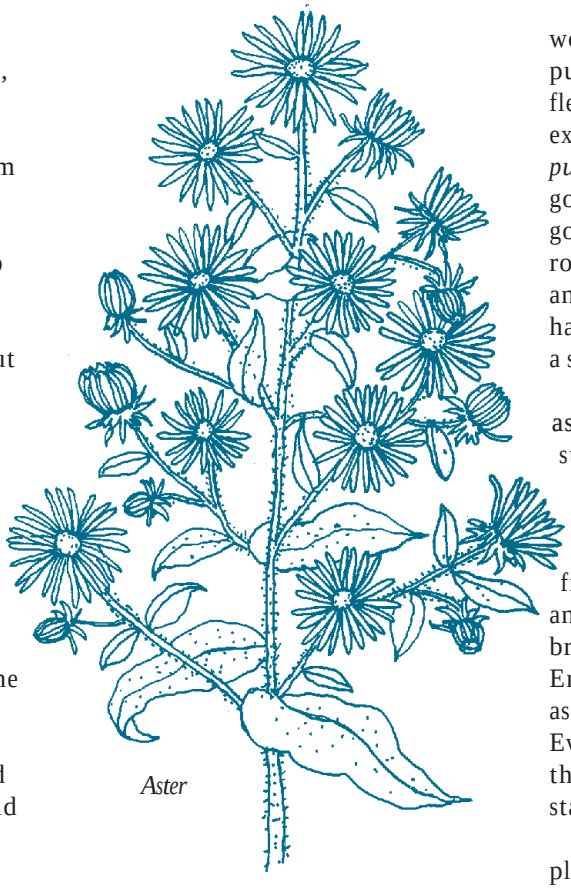
Plant Lore of the Mountains

Nature's Summer Palette

Splashes of yellow, sprays of white dotted with red, blue, pink and purple. A rich bounty of wildflowers paints West Virginia's byways with an endless stream of color. Some of the more showy varieties like sunflowers, asters, daisies and touch-me-nots are quite familiar to us. Plants with names like pennyroyal, beard-tongue, goatsbeard, blue lobelia and soapwort may not be as familiar but occur commonly throughout the state.

Different species and colors of wildflowers parade across the landscape from June through August. The beauty of our roadside wildflowers delights and enchants us. But, how did they come by such quirky names? Have you ever wondered who came up with a name like beard-tongue or soapwort and why?

Goatsbeard



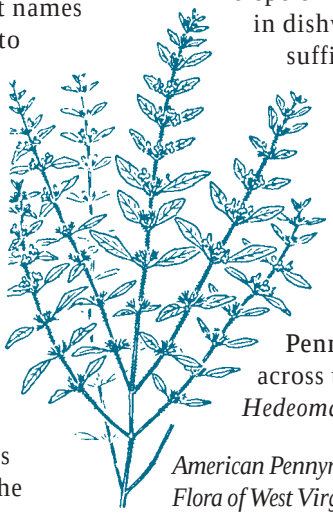
Aster

Many roadside plants are escapees from cultivation, having arrived on the Mayflower and other vessels. Several species of introduced herbs were mainstays of European kitchen gardens for hundreds of years. Some plant names have ancient origins and refer to some useful property of the plant or its resemblance to an everyday object.

One of the earliest summer wildflowers Goatsbeard (*Aruncus dioicus)* spreads its long-stalked, feathery plumes under the shade of mature trees. This native species occurs along steep road banks across the state. The fern-like leaves and cream-colored flowers bestow a lovely softness that concurs with its name. The flower plume resembled the long-downy beard of a goat to the 18th century colonists who named this plant.

Soapwort (*Saponaria officinale)* was brought to the United States by Colonial housewives for the reason the name implies. Soapwort contains a dispersing agent like those found in dishwashing detergents. The suffix "wort" simply means plant, thus, soap plant. It readily escaped from colonial gardens into fields and roadsides across the continent by the 19th century.

Look for *Hedeoma pulegioides* or American Pennyroyal along roads across the state. The genus *Hedeoma* comes from a Greek word meaning sweet mint and pulegioides from a Latin word meaning flea, thus a sweet smelling flea. Well, not exactly. European pennyroyal *(Mentha pulegium)* was known for centuries as a good insect repellent, in fact a "royally good" flea repellent. American pennyroyal, with its pretty tiny blue flowers and lovely fragrance was discovered to have the same properties. So, it is in fact a sweet- smelling flea repellant.



American Pennyroyal
Flora of West Virginia

We have so many varieties of native asters that you could get a degree in studying them. Though most are some shade of lavender, some are white and some yellow. The name aster is simply the Greek word for star. When viewed from above the bright yellow center and spreading rays of an aster blossom bring to mind a star. Many words in the English language like astrology and astronomy have aster as their root words. Even disaster --to be ill-starred-- refers to the ancient belief in the effect the stars had in shaping our lives.

A common summer roadside plant called mullein produces spires of yellow flowers that erupt from a tuft of wooly leaves. Mullein is native to Europe and was brought to this continent for its medicinal properties.

Mullein

The name mullein derived from the Latin verb *mollis*, to soften. Other terms derived from this word include mollusk (a soft-bodied) invertebrate) and mollify.

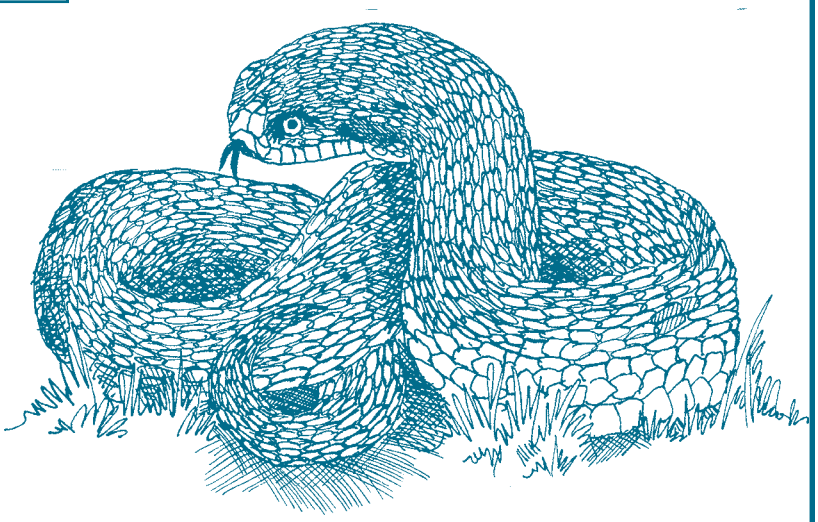
Mullein alone may have over twenty different common names including lungwort, flannel leaf and candlewick; all related to some very real and tangible use down through the centuries.

Most plants you see while traveling in the Mountain State this summer provide an opportunity to discover a multitude of human connections across time and the space of our planet.

--Emily Grafton

Rare Species at a Glance

Eastern Hognose Snake



Scientific name: *Heterodon platirhinos*

State status: The hognose snake was once found throughout West Virginia, but appears to be declining and is now an uncommon species.

Global status: Common throughout most of its range.

General description: This snake may reach a length of 45 inches. The color and pattern of the hognose snake can be quite variable. It usually has dark brown to black squarish patches on a background that ranges from yellow to reddish to tan. Sometimes this snake may even be plain black or grey. Its belly is mottled grey or greenish on a yellow background. The tip of this snake's nose (rostral plate) is upturned and pointed, which gives the hognose snake its name. When threatened, the hognose snake will inflate its body, flatten its head, and hiss in an attempt to scare away the intruder. If this display fails it will then writhe on the ground and finally play dead.

Habitat: This snake prefers dry, open areas: sandy soil, agricultural fields and the edges of woodlands.

Total range: Southern New Hampshire south throughout Florida and west to Minnesota, South Dakota, Kansas and Texas.

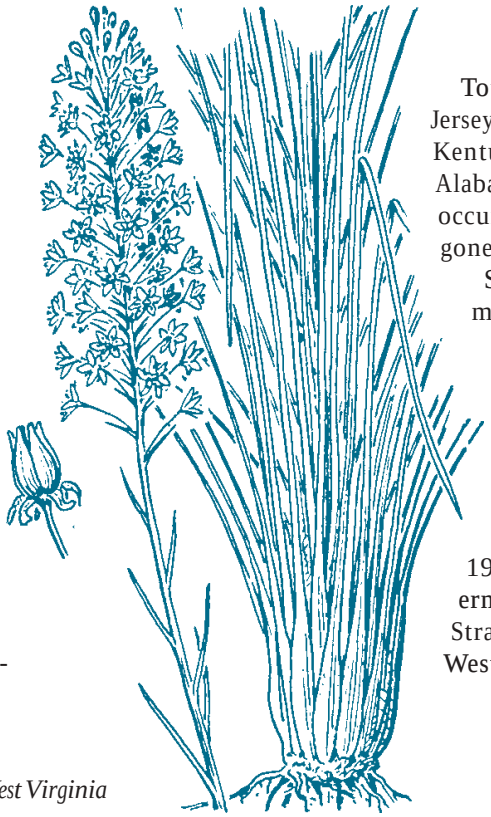
State range: Records exists for over half of the counties in West Virginia, and it could be found anywhere in the state in appropriate habitat. Because sightings of this snake have decreased, report any sightings to Jennifer Wykle of the WVDNR (jwykle@dnr.state.wv.us).

Threats to the species: The eastern hognose snake may be threatened by loss of habitat due to succession and land conversion for development.

Best time to look: Look for the hognose snake from spring through fall.

Source: Green, N.B. and T.K. Pauley. 1987. Amphibians and Reptiles in West Virginia.

Eastern Turkeybeard



Flora of West Virginia

Scientific name: *Xerophyllum asphodeloides*

State status: Extremely rare in West Virginia, with just three occurrences in two counties.

Global status: Uncommon throughout much of its range.

General description: Eastern turkeybeard can be recognized by the needle-like leaves which arise from the plant's base. The flowering head (raceme) tops a stem which can be as tall as 60 inches. The flowers are white and densely cover the raceme, which is two to six inches long.

Habitat: In West Virginia turkeybeard is found in high elevation, acidic woods.

Total range: Turkeybeard's historical range is New Jersey, Delaware, Virginia, West Virginia and Kentucky south through Tennessee, the Carolinas, Alabama and Georgia. There are no current occurrences in Kentucky and it is believed to be gone entirely from Delaware.

State range: This species is found on one mountain in Hardy and Pendleton counties.

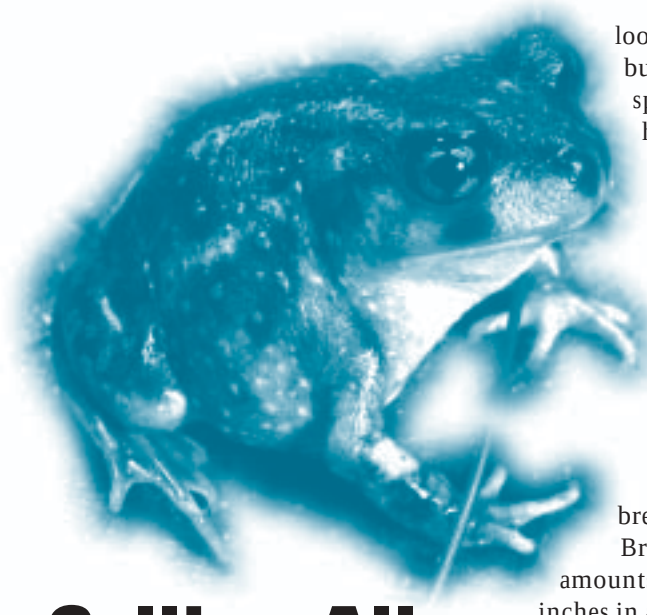
Threats to the species: Turkeybeard may be fire-dependent, and could be threatened by succession due to fire suppression.

Best time to look: Look for turkeybeard when its showy flower heads are in bloom during June.

Sources: Gleason, H. and A. Cronquist. 1963. Manual of Vascular Plants of Northeastern United States and Adjacent Canada; Strausbaugh, P.D. and E.L. Core. 1970. Flora of West Virginia; Wildlife Diversity Program files.

--Barbara Sargent

Notes From The Field



Calling All Spadefoots

The Eastern Spadefoot (*Scaphiopus holbrookii*) is West Virginia's rarest toad. Until this past spring, it had not been seen in the state for 30 years. It is secretive, spending much of its life burrowed in loose sandy soils. To aid in burrowing, the family of spadefoots (Pelobatidae) has a hard, black, sickle-shaped tubercle on each hind foot. This is where the term spadefoot originates.

The toad is smaller than the more common toads found in West Virginia which include the American Toad (*Bufo americanus*) and Fowler's Toad (*Bufo fowlerii*). Eastern Spadefoots are nocturnal and opportunistic breeders.

Breeding is triggered by large amounts of rainfall, such as 2 or more inches in a 24-hr period, and temperatures above 50°F.

Eastern Spadefoots breed in temporary (ephemeral) pools created by heavy rains. The call of Eastern Spadefoots sounds similar to someone vomiting. Breeding may take place in one night. Eggs hatch in about a week and toads develop and emerge in as little as 2-3 weeks, depending on environmental conditions.

To distinguish Eastern Spadefoots from other toads in West Virginia, the following characteristics should be considered. First, the eyes of Eastern Spadefoots have vertical pupils whereas American and Fowler's toads have round pupils.

Second, while all toads have large glands known as paratoid glands, Eastern Spadefoots have round paratoid glands and American and Fowler's toads have oblong glands. Third, look for the hardened black sickle-shaped tubercle on the hind feet of the Eastern Spadefoot. Both American and Fowler's toads have a black hardened tubercle on their hind legs, but it is small and not sickle-shaped. And lastly, Eastern Spadefoots have relatively smooth skin compared to the other toads of the state.

If you see or hear one of these elusive toads in West Virginia or have information about known populations and breeding sites please contact Keith A. Johnson or Dr. Thomas K. Pauley via email at Marshall University: johnso67@marshall.edu or pauley@marshall.edu

-- Keith A. Johnson and Dr. Thomas K. *Pauley, Marshall University, Department of Biology*

Creepy Crawlies, Continued From Page 1

troublemaker ever since being introduced to the U.S. in 1916, causing serious damage to sod, field crops, fruit trees and ornamentals. The small metallic green beetle with rust-colored wings feeds on more than 275 different kinds of plants, while its grubs feed on roots and underground stems, especially of grass. Most disheartening for the homeowner is the damage to roses. However, gardeners shouldn't give up hope. It is suggested that during peak beetle activity, roses that are opening should be cut in the morning and allowed to open in the house. The use of traps can reduce beetle injury by as much as 30 percent.

Perhaps the critter that causes the most shivers down the spine is the scary looking earwig. With pincers to defend its territory, the earwig is erroneously thought to crawl into the ears of sleeping people. But Powell believes that the insect's bad reputation is much maligned. "New research has shown that earwigs are not as destructive as once thought and sometimes are even considered beneficial," she suggests. "Much damage once attributed to earwigs is now believed to be caused by snails, slugs, cutworms and other pests."

However, earwigs do cause consternation when they enter the house. Similar to the millipede, the earwig seeks moist areas in the late summer and early fall and large infestations can look and smell bad. To keep the critter away from the house the Extension Service recommends: locating firewood piles so that they are off the ground and away from the house; keeping mulch to more than two inches; keeping leaf litter next to your house to a minimum; and trimming back shrubbery.

As for the garden, a nighttime visit with a flashlight may illuminate the real plant eaters: those slimy slugs and snails. But just as a precaution, the best way to keep earwigs happy is put down a nice layer of compost to satisfy their appetite so they won't chew on tender seedlings. A "beneficial" aspect of the earwig is that its presence in large numbers could indicate a drainage problem near the house, making the insect a somewhat fierce looking "canary" to a possibly worse situation.

For more information, check out the WVU Extension Service website mentioned above, call (304) 293-3911 or contact your local county extension office. To reach the West Virginia Department of Agriculture log on to: www.state.wv.us/agriculture *or call (304) 558-2212.*

Outdoor Wildlife Learning Sites Receive Funds

Little People's Nature Station

EACHS Headstart, Petersburg, Grant County

The primary goal of this project is to provide children attending the Petersburg, WV Head Start Center with a native plant garden and small pond to enhance their overall education experience. The school is located in a concrete jungle, consequently the project will greatly enhance the lives of these children. The features that will be developed include the establishment of a butterfly garden, bird feeders, pond construction and tree plantings.

Calhoun County OWLS

Mt. Zion, Calhoun County

Students and teachers will establish wildlife habitat on a 20-acre site associated with the campus for wildlife viewing and outdoor education. Proposed features to be developed include a butterfly garden, an outdoor classroom work-area with podium and picnic tables, bird feeding stations, birdbath and a nature trail. The students will inventory the existing plant and animal communities and clear the existing trails for safer access by everyone.

Marlinton Elementary OWLS

Marlinton, Pocahontas County

The primary goal of this project is wildlife habitat enhancements of the existing vegetation communities surrounding the school. Another objective is to increase accessibility to prime wildlife habitat viewing areas along the Greenbrier River. The school is located adjacent to the Greenbrier River Trail. The students will add wood duck boxes, establish native vegetation and a pond between the school and the trail.

T.A. Lowery Elementary School: SEEDS (Schoolyard Education and Environmental Design Site)

Shenandoah Junction, Jefferson County

The primary objective of this project is to design a multi-faceted hands-on outdoor learning classroom. A well-marked nature trail already exists at the school and will be the focal point for most of the additional features. Features that will be developed include a hummingbird garden, a butterfly garden, tree plantings to shade existing and newly added benches, a tree shelter and bank stabilization project.

Braxton Co. Middle School Wetlands Restoration Project

Sutton, Braxton County

The main objective of this project is to involve the students in the design, construction and maintenance of a wetland ecosystem. The students will utilize the project to study about the ecological value of wetlands and the environmental components of a healthy wetland ecosystem. Features that will be developed include a pond, a continuous water source, an exposed area for animal track studies, establishment of native wetland plants and a rain gauge.

Students at Preston High School. work on their OWL site.

Peterson-Central Elementary School "Walk on the Wildside"

Weston, Lewis County

The newly constructed Peterson-Central Elementary School has several acres of nearly barren land that will be enhanced with native plants to provide wildlife habitat. The primary goal is to utilize native plants to landscape the grounds for people and wildlife. Features that will be developed include a small pond, tree plantings along the pond, birdhouses, bird feeders, a track mat, tree identification site, brush/rock piles and gardens.

Longdrain Elementary School's Heritage Garden

Hundred, Wetzel County

The Heritage Gardens Outdoor Wildlife Learning Site project will establish a nature trail and enhance habitat for wildlife across several acres of school property. The trail will follow the natural contour of the landscape including the stream bank, an adjacent bottomland meadow and wooded hillside. The primary features to be developed include a shrub windbreak, a butterfly garden, a hummingbird garden, native plant restoration project on the streambank, a track mat and bat boxes.

--Emily Grafton

Watching For West Nile Virus

Originally found in the New York area in 1999, West Nile virus continues to expand its territory each season. Currently the virus is found in 27 states and the District of Columbia; Ontario, Canada and the Caribbean Cayman Islands.

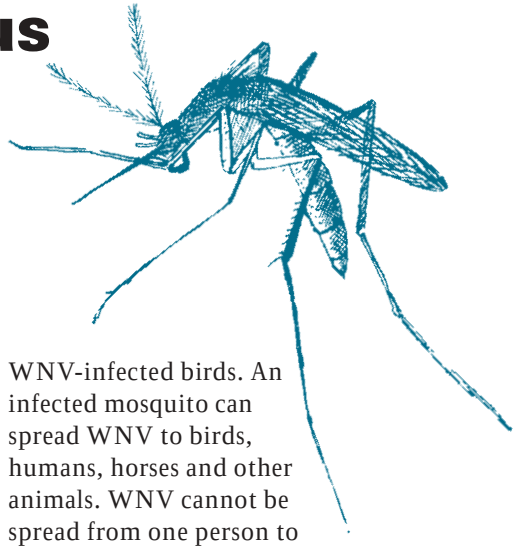
All states with boundaries adjoining West Virginia had positive incidents of the virus in 2001. Wild birds are the primary reservoir hosts, however the American crow, blue jay, other corvids and raptors (hawks, owls, and eagles), are particularly susceptible. Horses, humans and other animals are usually considered to be dead-end hosts and do not have virus levels high enough to infect mosquitoes and other animals.

Because birds are particularly susceptible to the virus, large numbers of dead birds in a community may indicate a higher risk of having human cases. If the public notices dead birds in their community they are encouraged to call their local Health Department and report the bird sighting.

Birds appropriate for testing include only those that have died recently (less than 24 hours old), however all dead birds should reported. Recently deceased birds may then be submitted for West Nile virus testing. Dead bird surveillance will allow us to monitor the spread of the virus into our state.

For additional information contact the West Virginia Department of Health and Human Resources, Infectious Disease Epidemiology Program at (304) 558-5358 or visit the website at www.wvdhhr.org/bph/oehp/sdc/idep.htm.

--Greg Chrislip, WVDHHR public health entomologist



WNV-infected birds. An infected mosquito can spread WNV to birds, humans, horses and other animals. WNV cannot be spread from one person to another.

FAQ'S

What is West Nile Virus?

West Nile virus (WNV) used to be found only in Africa, Asia and the Middle East. Starting in the summer of 1999, this virus caused bird mortality in a New York zoo and human illness in the northeastern United States. WNV is carried by mosquitoes which have bitten

Why do I need to report dead birds?

Dead bird reporting helps give the county health department an "early warning" that WNV is in the county. If a dead bird with WNV is found in the county, the health department will inform people in the county and tell them how to protect themselves.

What do I do if I see a sick or dead bird?

Make a note of where you saw the bird, then call your local health department. Only if the local health department asks you to do so, put one garbage bag inside another garbage bag, and place the dead bird inside the double plastic bags. Never handle birds without gloves. If you do not have gloves, place a plastic bag over your hand. Place the bagged bird some place cool.Wash your hands after removing your gloves. If the local health department does not need the bird for testing, it can be discarded in the regular trash.

What else can I do to help?

Empty standing water in old tires, cemetery urns, buckets, plastic covers, toys, or any other container where mosquito larvae or "wrigglers" live.

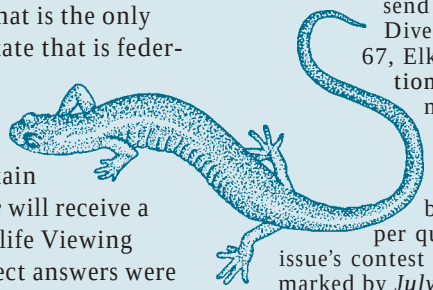
Empty and change the water in bird baths, fountains, wading pools, rain barrels and potted plant trays at least once a week if not more often.

Keep swimming pools treated and circulating, and rain gutters unclogged.

--FAQ's from the WV Department of Health and Human Resources website.

Who Wants To Be A Biologist?

Congratulations to our contest winner, *Hallie Simms* of *Ballengee* whose name was picked at random from all the received correct entries. *Hallie* correctly answered last issue's question: What is the only amphibian in the state that is federally listed as threatened or endangered? The answer is the Cheat Mountain Salamander. *Hallie* will receive a West Virginia Wildlife Viewing Guide. Other correct answers were submitted by: *Koneda Devrick*, Point Pleasant; *Reba Hutton*, Elkins; *Talma Williams; Ed and Maria Bray*, Buckhannon; *John Peters*, East Bank;*Hullet Good*, Elkview; *David Pyle*, Finksburg, MD; *Mrs. Clifton Hyre*, Elkins; *Pat Cahill*, Huttonsville; and *Annie Snyder*, Davis.Thank you all for playing!



Here's this issue's question:
What is the WV State butterfly?

Official Rules: Clearly print your answer on a postcard along with your name, address and phone number and send it to: WV DNR, Wildlife Diversity Newsletter, P.O. Box 67, Elkins, WV 26241, Attention: trivia contest or email nbrossfregonara@dnr.state.wv.us. Don't forget to include your address!

Only one postcard will be accepted per household, per question. Postcards for this issue's contest question must be postmarked by *July 15, 2002* and this issue's winner will be sent the WV Watchable Wildlife Guide.

Please do not call our office and ask for the answers. That would be too easy, but you can visit our website: www.dnr.state.wv.us and search for clues.

Employees of the WV DNR and the Wildlife Diversity Program and their families are ineligible.Each winner will be chosen at random from all correct entries received by the postmarked deadline.

Using Your Own Critter Control

Editor's Note: The following tips are written by Daniel Hershey in his The Critter Control Handbook ©*Daniel Hershey, reprinted with permission of publisher* Voyageur Press, *123 North Second Street Stillwater, MN 55082 1-800-888-9653*

Bad Tasting Recipe

You can make a taste-bad repellent at home by combining 1 tablespoon (15 ml) of cooking oil, 5 tablespoons (75 ml) of cayenne pepper, and 1 gallon (3.8 l) of water. Use this mixture if you have problems with deer and rabbits.

Scarecrow Magic

Scarecrows don't have to be scary to be effective. The key to a good scarecrow is to change its location often and try to give it some movement. Try attaching pie pans that clank in the wind to the scarecrow's arms with string. Put streamers, flags, or surveyor's tape on the arms or extended portions of your scarecrow. Most animals quickly become accustomed to new objects in the garden, so the key to success is to move the scarecrow every other day or so. Using a scarecrow in conjunction with a good repellent will double its effectiveness.

Gardening Tip

To keep rabbits and deer away from your vegetables, plant marigolds around the perimeter of the garden. Plant the marigolds as a border, spacing themabout 6 to 8 inches (15.24 to 20.32 cm) apart to create a nice, thick barricade.

Make Your Own Flea Trap

Make a simple flea trap using a small glue board and a nightlight. Place the glue board where fleas frequent. Plug in the light bulb and hang it approximately 4 inches (10.16 cm) above the glue board. (You may need to use an extention cord.) The fleas, attracted to the warmth of the light bulb, will become hopelessly stuck on the glue.

Umbrella Bats!

Old barns and shutters aren't the only places you'll find bats—they sometimes roost in closed-up patio umbrellas and awnings, too. To prevent this, place a bag of mothballs underneath the umbrella or in the awning before closing it up for the night. Puncture the bag or put the mothballs in a nylon stocking and tie or staple it to the inside. Bats hate the smell of mothballs and will find a more desirable place to sleep.

Finding the Culprit

When garden plants, flowers and vegetables are disappearing and you aren't sure if you have slugs or rabbits, look closely at the tip of the leaves. A rabbit's very sharp teeth cut off the tip of the leaf neatly, leaving straight edges. A caterpillar or slug will chew scallop-shaped loops on leaf edges, sometimes eating holes in the leaf. To get rid of slugs, fill several empty tuna fish or cat food cans with beer and place them in the area where the slugs have been dining. The slugs, attracted to the beer, crawl into the can and quickly drown.

Another way to keep slugs away from valued plants is to ring the area you wish to protect with 4-inch (10.16-cm) copper flashing. Bury the flashing into the ground 1 inch (2.54 cm) or so deep. The slugs will not be able to crawl over this barricade.

WV Wildlife Viewing Guide: *Canaan Valley State Park*

Description: Canaan Valley is the largest wetland complex in West Virginia and is the highest valley of its size east of the Rockies. It supports an incredible abundance of wildlife: 288 species of mammals, birds, reptiles, amphibians and fish, and almost 600 different species of plants occur here.

The valley is composed of an array of public and private land including Canaan Valley State Park, the nearby Dolly Sods Wilderness Area, Blackwater Falls State Park and the nation's 500th national wildlife refuge, Canaan Valley National Wildlife Refuge.

Viewing Information: The most visible species here is the white-tailed deer. Hike any of the Canaan Valley State Park roads or numerous trails and look for deer in the many clearings early in the morning or early evening to see them feeding. Less visible because they are more active in the evening, but just as fun to observe is the semiaquatic mammal, the muskrat, which might be seen along the Abe Run Boardwalk and the Blackwater River Trail. Look for swamp sparrows and cedar waxwings along the boardwalk in spring, and in summer look for common yellowthroats, the males easily identified by their black face mask above the yellow throat.

In summer, search the forest and its edge for other migratory songbirds like indigo buntings, magnolia warblers, Blackburnian warblers and hermit thrushes. Black bears have become more numerous here and are sometimes seen in spring and fall. Start your visit off right by picking up *A Guide to the Birds of Canaan Valley State Park and the Surrounding Area* at the Nature Center.

Direction: From Davis, travel south on West Virginia State Route 32 for 13 miles. Canaan Valley Resort State Park entrance is on the right.

Ownership: West Virginia Division of Natural Resources (304) 866-4111

Editor's Note: The WV Wildlife Viewing Guide by Mark Damian Duda is available at bookstores throughout the state and can be purchased from the WV DNR by calling (304)637-0245.

Kids Krafts

Preserving a spider's web

The delicate and intricate geometric shapes of a spider's web can be preserved and enjoyed with only a few materials and a little practice.

Materials needed:

- sheet of black paper (construction paper works well)
- can of hair spray
- can of white or gold spray paint or talcum powder
- can of spray varnish
- cardboard box large enough for the paper to fit in

First find a few spider webs in a meadow. This should be relatively easy since spiders usually build a new one every day. The following procedure can be a bit tricky and will need a bit of practice so it's good to find several webs. First, make sure the web is not being used by its builder. You can gently tap the web and check to see if the occupant is home or look around the edges for the spider.

Gently spray the web with gold or white spray paint. Hold the box behind the web to protect and collect any spray not hitting the web. Make sure the spray does not damage the web but only covers it with paint. Another method not using paint, is to gently sprinkle the web with talcum powder by pouring some powder on your palm and blowing it onto the web. Place the black piece of paper in the box and spray it with hair spray. You'll have to act quickly since the spray dries quickly. The most difficult part is next and will usually require a bit of practice. Place the sprayed tacky piece of paper behind the web and gently bring it into contact with the web. Carefully cut the strands of the web supporting it from its surrounding vegetation. Finally, to preserve the web, spray the paper with the attached web with a protective coat of varnish. Make sure all spraying is done in the cardboard box to protect the adjacent area. Now you can display the interesting geometric patterns of your own spider web for months to come.

--Jim Fregonara

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